

REMARKS

This amendment under 37 CFR § 1.116 is submitted in response to the outstanding final Official Action mailed May 13, 2004. In view of the above claim amendments and the remarks which follow, reconsideration and allowance of this application is respectfully respected.

Claims 1 and 27 have been amended to more particularly point out and distinctly claim the subject matter that applicant regards as the invention and to define over the prior art cited. In particular, both claims have been amended to state that the lithium borate is mixed with the lithium insertion compound cathode and heated to a temperature in the range between 250°C to 450°C. This subject matter was previously added to claims 2 and 28, which are now canceled following the transfer of their subject matter to claims 1 and 27, respectively. As established in the previous amendment with respect to claims 2 and 28, the transfer of this subject matter does not introduce new matter.

Claim 5 was also amended to more particularly point out and distinctly claim the subject matter of the invention. In particular, claim 5 was amended to state that the amount of lithium borate is greater than or equal to 0.01%, but less than 2% of the weight of the lithium insertion compound cathode. This language was suggested by the Examiner and also does not introduce new matter.

The claim amendments do not raise any new issues that would call for a new search or require burdensome work on the part of the Examiner. Instead, the claim amendments eliminate issues for appeal and place the claims in better form for consideration on appeal, for which entry is permitted under 37 CFR § 1.116.

Furthermore, the number of claims do not exceed the number under Final Rejection. Therefore, it is respectfully requested that the claim amendments be entered for purposes of appeal in the event for some reason the claims are not deemed to be in condition for allowance.

However, in view of the above claim amendments, the within application is believed to be in condition for allowance. Reconsideration of the rejections made by the Examiner is therefore respectfully requested. In the event that any issues remain outstanding, the Examiner is asked to call the undersigned at the telephone number indicated below.

Turning to the Official Action, claim 5 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention. Specifically, the Examiner questioned the meaning of the phrase "greater than about 0.01%," noting that it was unclear whether the term "about 0.01%" in such phrase included the value of 0.0099%. The Examiner suggested the language "greater than or equal to 0.01%, but less than 2% ." This rejection is respectfully traversed in view of the above amendment to claim 5 for the reasons set forth hereinafter.

Claim 5 has been amended to adopt the claim language recommended by the Examiner to overcome this rejection. By amending claim 5 in this manner, this rejection under 35 U.S.C. §112, second paragraph, has thus been overcome. Reconsideration by the Examiner and withdrawal of this rejection is therefore respectfully requested.

Next, the Examiner rejected claims 1-5, 7-12 and 27-37 under 35 U.S.C. §102(b) as being anticipated by, and alternatively under §103(a) as unpatentable over,

Uehara et al., JP 09-330720. Example 11 of Uehara et al. was cited as teaching heat treating a lithium borate-coated lithium transition metal oxide cathode material with LiCoO_2 type structure at a temperature just outside of the heat treatment temperature range of the claimed invention. This rejection is respectfully traversed in view of the above claim amendments for the reasons set forth hereinafter.

Uehara et al. disclose a heat treatment temperature of 650° C. Independent claims 1 and 27 have been amended to recite a heat treatment temperature range of 250 to 450°C. Claims 1 and 27, as well as claims 3-5, 7-12 and 29-37 depending therefrom are therefore not anticipated by Uehara et al. under 35 U.S.C. §102(b).

The claims are also not obvious in view of Uehara et al. As shown in Figure 5, heat treatment at the 650°C temperature disclosed by Uehara et al. produces an undesirable increase in capacity fade rate in comparison to an untreated control. When the presently-claimed 250 to 450°C temperature range is employed, a dramatic improvement in capacity fade rate is obtained, both over the untreated control and a sample prepared by the treatment method disclosed by Uehara et al. In view of the results depicted in Figure 5, Claims 1 and 27, as well as claims 3-5, 7-12 and 29-37 depending therefrom, patently define over Uehara et al. under 35 U.S.C. §103(a).

By amending claims 1 and 27 to introduce the 250 to 450°C temperature range limitation representing an improvement over Uehara et al., this rejection under 35 U.S.C. §§102(b)/103(a) has thus been overcome. Reconsideration by the Examiner and withdrawal of this rejection is therefore respectfully requested.

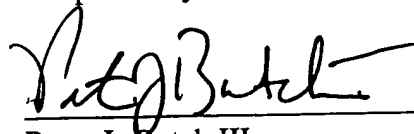
The Examiner also rejected claims 13 and 38 under 35 U.S.C. §103(a) as being unpatentable over Uehara et al. in view of Gosho et al., U.S. Patent No. 6,589,694. The Examiner acknowledges that Uehara et al. did not teach the

electrolyte solvent of claims 13 and 38, but cited Gosho et al. as teaching this limitation. This rejection is respectfully traversed for the reasons set forth hereinafter.

Claims 13 and 38 depend from claims 1 and 27, respectively, and are directed to allowable subject matter by the temperature limitation of claims 1 and 27 for the reasons discussed above. The combination of Uehara et al. and Gosho et al. does not render claims 13 and 38 obvious because both references use a heating temperature of 650°C or higher. Because the use of lower heating temperatures produces a cathode active material with decreased capacity fade rate in comparison to the prior art temperatures employed, claims 13 and 38 are patentable over the cited combination of Uehara et al. in view of Gosho et al. under 35 U.S.C. §103(a). Reconsideration by the Examiner and withdrawal of this rejection is therefore respectfully requested.

In view of the above claim amendments and remarks, this application is now in condition for allowance. Reconsideration is respectfully requested. The Examiner is reminded to telephone the undersigned if there are any remaining issues in this application to be resolved. Finally, if there are any additional charges in connection with this response, the Examiner is authorized to charge applicants' Deposit Account No. 19-5425 therefor.

Respectfully submitted,



Peter J. Butch III

Registration No. 32,203

Synnestvedt & Lechner LLP
2600 Aramark Tower
1101 Market Street
Philadelphia, PA 19107
Telephone (215) 923-4466
Facsimile (215) 923-2189